DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: CSNHS-M002-00(967) DeKalb
CSNHS-M002-00(970) Cobb DeKalb Fulton
P.I. Nos.: M002967 and M002970
Rehabilitation of I-285

OFFICE: Engineering Services

DATE: July 9, 2009

FROM: Ronald E. Wishon, Project Review Engineer REW

TO: David Crim, State Maintenance Engineer
Attn.: Willie Webb

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held on May 1, 2009. Responses were received on June 5, 2009. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
1	Adjust liquidated damages for lane closures from $1,000/hr. to $2,500/hr.	Design Suggestion	Yes	This will be done.
2	Use OGFC instead of PEM	Design Suggestion	No	OMR indicates a decrease in drainage capacity if placed in the thinner lifts as recommended by the VE Study report.
3	Treat the mix design for lanes independently	Design Suggestion	No	OMR is reviewing old plans to determine the extent of the existing B-modified mix. If it is determined that there is no B-mod in Lanes 1 and 5, then it may be possible to use a different mix design for these lanes.
4	Use SMA instead of Superpave on inside shoulder	Design Suggestion	No	OMR has determined that 6 feet is too wide to pull the SMA for the inside shoulder.
5	Adjust Section 150.11 (B)4 working days	Design Suggestion	Yes	This will be done. The time to complete paving operations will be increased from 30 days to 180 days.

Additional information was provided by a series of emails (see attached).

The Office of Engineering Services concurs with the Project Manager's responses.

Approved: _____ **Date:** 7/10/09
Gerald M. Ross, PE, Chief Engineer

Approved: _____ **Date:** 7/16/2009
for **Rodney Barry, PE, FHWA Division Administrator**

REW/LLM
Attachments

c: R. Wayne Fedora/Aric Mance/Mindy Roberson/LaToya Johnson - FHWA
Genetha Rice Singleton
David Crim/Eric Pitts/Willie Webb/Reid Mathews
Marlo Clowers
Mickey McGee
Mike Lobdell/Kevin Cowan
Lisa Myers
Matt Sanders

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE CSNHS-M002-00(967) & CSNHS-001-00(967), Cobb, Fulton, and Dekalb Counties
P.I. No.'s: M002967 & M002970

OFFICE Innovative Program Delivery

DATE June 5, 2009

FROM Darryl D. VanMeter, P.E., Acting Innovative Program Delivery Administrator

TO Ronald E. Wishon, Project Review Engineer

SUBJECT **Value Engineering Study – Response to Final Report**

The final report for the Value Engineering Study conducted on May 1, 2009 for the above listed projects has been reviewed by this Office, Materials and Research, District 7 Maintenance and District 7 Preconstruction. Comments on each of the five value engineering recommendations are included in the attached report. The final suggested action for recommendation number 3 is awaiting additional information from the Office of Materials and Research. Your office will be informed when a determination is made.

The office of Innovative Program Delivery is in agreement with the suggested actions listed in the attached report for the above listed projects. If you have any questions or require additional information, please contact Marlo Clowers at (404) 631-1713 or email.

DVM:MLC

cc: Mike Lobdell attn: Kevin Cowan, D7 Preconstruction
Willie Webb, Maintenance

Value Engineering Study Report Responses
CSNHS-M002-00(967) – P.I. No. M002967
and
CSNHS-M002-00(970) – P.I. No. M002970
I-285 Resurfacing
Cobb, DeKalb, and Fulton Counties

Recommendation -1

Original Design: The original design calls for additional liquidated damages for failure to reopen lanes at time specified in the special provisions to be assessed at $1,000/hr to the contractor for noncompliance. The Recommendation would propose increasing the liquidated damages clause contained in Section 108.08(a)1 to $2,500/hr for failure to adhere to the lane closure restrictions shown in the Special Provisions.

VE Alternative: The alternative would propose increasing the liquidated damages clause contained in Section 108.08(a)1 to $2,500/hr for failure to adhere to the lane closure restrictions shown in the Special Provision.

Cost Savings: The recommendation does not provide a significant cost savings, but it may provide a significant time savings.

Suggested action (District Seven Preconstruction): Implement this recommendation. Recommendation 1 can be implemented. Section 108.08(a) will be increased from $1,000 to $2,500 as suggested.

Recommendation -2

Original Design: The original design calls for the use of a 12.5mm PEM drainage surface.

VE Alternative: The alternative proposes the consideration of OGFC as a drainage course in lieu of the PEM that is currently designed. The OGFC could be placed in thinner lifts (90LB/SY for OGFC, 135LB/SY for PEM) resulting in a reduction of approximately 30% of the estimated quantities of PEM.

Using OGFC would allow tie-in to existing bridge approach slabs and other associated fixtures without adjustments to the existing profile grade line.

Cost Savings: According to the GDOT Mean Item Summary, the average let cost per ton for the PEM item is 400-3624, which is $80.94/ton. The estimated cost for OGFC is 400-3206 is $72.96/ton, resulting in comparable cost savings even before cost saving realized by utilizing the thinner application.

Suggested action (Office of Materials and Research): Do not implement this recommendation. There will be approximately a 33% decrease in the drainage capacity of the drainage course if this layer is decreased in thickness by 30% (actually 33%). There will also be an effect on safety, which is why this mix is used to begin with. This effect is not as easily quantifiable.

The decrease in thickness will have to be made up by use of extra 25mm Superpave (402-3121) at an average cost of $62.61 to maintain the existing profile grade. Therefore, the actual cost savings is only about 12%. The study did not calculate an actual cost savings, but this proposed change does not appear to be worth it.

Recommendation -3

Original Design: The original design mills 6-8 inches from lanes 1 and 5 matching that removed to reveal the PCC in lanes 2, 3 and 4.

VE Alternative: The alternative would propose milling a lesser amount of asphalt off lanes 1 and 5. The OMR memorandum of July 13, 2000 identifies a concentration of truck traffic in lanes 3 and 4 and the failure of an old layer of "B- modified" mix over the PCC as the primary source of deterioration in this stretch of roadway. It is unclear from the documentation if the "B-modified" mix extends across lanes 1 and 5. If the failing layer extends cross the GAB base in lanes 1 and 5 it would be necessary to mill the full depth recommended. However, if the failing layer does not extend across lanes 1 and 5, due to less truck traffic and what appears to be minimal deterioration of these lanes it would be unnecessary to remove the full 6"- 8" of material.

Cost Savings: The recommendation has the potential to provide a significant cost savings, but more information is needed to quantify the actual amount.

Suggested action: Awaiting additional information from OMR
GDOT is currently trying to confirm the presence of the B-mod by reviewing any old plans we can find. Additional investigation is required before a decision is made.

Recommendation -4

Original Design: The original design utilizes a 6' wide layer of 12.5 mm Superpave on the inside shoulder.

VE Alternative: The alternative would propose utilizing a 6' wide layer of 12.5 mm SMA on the inside shoulder. By using the SMA mix on the inside shoulder it would avoid having the contractor change mixes just to pave the inside

shoulder. This would allow the contractor to potentially finish all the inside shoulder and lane 1 work with a single closure / work session and potentially lessen the number of times he has to close that section of roadway.

Cost Savings: The recommendation does not provide a significant cost savings, but it may provide a significant time savings.

Suggested action (Office of Materials and Research): Do not implement this recommendation. After discussions this with the Bituminous Construction Branch it was decided that for this project, 6 feet is too wide to pull the SMA for the inside shoulder. We do not recommend using SMA on the inside shoulder.

Recommendation -5

Original Design: The original design document states:"Failure to complete all paving operations within 30 calendar days from the start on any of the paving operations, will result in the assessment of liquidated damages as described by section 108.08.5."

VE Alternative: The alternative would adjust the working days in Section 150.11(B) 4 to allow more time to complete the paving operations. The total project corridor is approximately 17 miles and varies from 3 to 6 lanes in both directions. The scope of work includes variable depth milling up to 8 inches, inlaying three lifts of asphalt, pavement striping and guardrail replacement on the main line and ramps in both directions. The required working time is increased due to lane closure restrictions and other conditions of our specifications therefore successful completion of the paving operations is not possible within 30 calendar days.

Cost Savings: The recommendation does not provide a significant cost savings, but it provides the contractor with a fair amount of time to complete work before being penalized.

Suggested action (District Seven Preconstruction): Implement this recommendation. The time to complete paving operations will be increased from 30 to 180 calendar days for both projects M002967 and M002970 (360 calendar days total) with fines of $25,000 per day for failure to comply. Special Provision sections 108 and 150 will be edited accordingly.

Lisa,
Please send over this VE study for approval. Thanks

LaToya

Transportation Engineer
Federal Highway Administration
Georgia Division
61 Forsyth Street, SW
Suite 17T100
Atlanta, GA 30303
404-562-4280 phone
404-562-3703 fax

-----Original Message-----
From: Painter, David (FHWA)
Sent: Monday, July 06, 2009 9:08 AM
To: Johnson, LaToya (FHWA)
Subject: RE: VE proposal for M002967 and M002970

I concur with OMR's approach.

-----Original Message-----
From: Johnson, LaToya (FHWA)
Sent: Wednesday, July 01, 2009 7:17 AM
To: Painter, David (FHWA)
Subject: FW: VE proposal for M002967 and M002970

David,
Please read the explanation below and let me know what you think. Thanks

LaToya

-----Original Message-----
From: Myers, Lisa [mailto:lmyers@dot.ga.gov]
Sent: Wednesday, July 01, 2009 6:27 AM
To: Johnson, LaToya (FHWA); Mance, Aric (FHWA)
Cc: Clowers, Marlo
Subject: FW: VE proposal for M002967 and M002970

Below is the response from OMR for your concerns about the I-286 VE study. Please let me know if you need anything else, or if this one can go to the Chief for signature.

Thanks.

Lisa Myers, AVS
Transportation Engineer Assistant Administrator - VE Coordinator
GA DOT - Engineering Services

-----Original Message-----
From: Jubran, Abdallah (AJ)
Sent: Tuesday, June 30, 2009 4:18 PM
To: Myers, Lisa
Cc: Geary, Georgene; Wu, Peter; Hines, Sheila
Subject: FW: VE proposal for M002967 and M002970

Lisa,

Attached below are some reasons why OMR does not concur with a 6 foot wide inside shoulder constructed using SMA surface in lieu of 12.5 mm SP.

A.J. Jubran, P.E.
State Pavement Engineer
Georgia Department of Transportation
404-363-7582
404-363-7684 fax
ajubran@dot.ga.gov

-----Original Message-----
From: Hines, Sheila
Sent: Tuesday, June 30, 2009 10:40 AM
To: Jubran, Abdallah (AJ)
Cc: Wu, Peter
Subject: RE: VE proposal for M002967 and M002970

AJ,

While several of the contractors in south Georgia use hydraulically extendable screeds, most northern contractors do not which is really what would be required to place a consistent 18 ft width of asphalt pavement. And given some recent experiences we have had with hydraulic extendable screeds, this statement (consistent) may be too generous! Placing SMA on shoulders brings about its own set of issues in that SMA is not a real workable mix at all because of its characteristics. It is both very stiff and sticky, not to mention extremely expensive! These are the same factors which led to eliminating its use on interstate ramps. What looks good on paper does not necessarily work well in the field and SMA as a shoulder mix is one prime example of this!

Respectfully,

Sheila Hines
State Bituminous Construction Engineer
Office of Materials and Research
Georgia Department of Transportation
15 Kennedy Drive
Forest Park, GA 30297
Office phone # (404) 363-7501
Cell phone # (404) 694-6729

-----Original Message-----
From: Jubran, Abdallah (AJ)
Sent: Tuesday, June 30, 2009 10:13 AM
To: Hines, Sheila
Subject: RE: VE proposal for M002967 and M002970

Sheila,

I discussed this question with you last week, and my recollection and correct me is that the Contractor may have too wide of a pull for shoulder and inside lane (approximately 18 feet). Please correct where I have erred so that we can provide Lisa Myers with the answer.

A.J. Jubran, P.E.
State Pavement Engineer
Georgia Department of Transportation
404-363-7582
404-363-7684 fax
ajubran@dot.ga.gov

-----Original Message-----
From: Myers, Lisa
Sent: Tuesday, June 30, 2009 8:17 AM
To: Jubran, Abdallah (AJ)
Subject: Re: VE proposal for M002967 and M002970

Can you give us some reasons why?

----- Original Message -----
From: Jubran, Abdallah (AJ)
To: Myers, Lisa
Cc: Geary, Georgene; Painter, David (FHWA); Hines, Sheila; Wu, Peter
Sent: Tue Jun 30 08:15:17 2009
Subject: RE: VE proposal for M002967 and M002970

OMR does not concur with a 6 foot wide inside shoulder constructed using SMA surface in lieu of 12.5 mm SP.

A.J. Jubran, P.E.
State Pavement Engineer
Georgia Department of Transportation
404-363-7582
404-363-7684 fax
ajubran@dot.ga.gov <mailto:ajubran@dot.ga.gov>

From: Myers, Lisa
Sent: Wednesday, June 24, 2009 6:27 AM
To: Jubran, Abdallah (AJ)
Subject: RE: VE proposal for M002967 and M002970

What about the second question - about SMA on the shoulder?

Lisa Myers, AVS
Transportation Engineer Assistant Administrator - VE Coordinator
GA DOT - Engineering Services
One Georgia Center - 5th Floor
600 W. Peachtree Street NW
Atlanta, GA 30308
Voice: 404-631-1770
Fax: 404-631-1956
lmyers@dot.ga.gov

From: Jubran, Abdallah (AJ)
Sent: Tuesday, June 23, 2009 5:05 PM
To: Myers, Lisa
Subject: FW: VE proposal for M002967 and M002970

Lisa,

This was a reply to Dave P at FHWA a few minutes ago.

A.J. Jubran, P.E.
State Pavement Engineer
Georgia Department of Transportation
404-363-7582
404-363-7684 fax
ajubran@dot.ga.gov

From: Jubran, Abdallah (AJ)
Sent: Tuesday, June 23, 2009 5:04 PM
To: 'David.Painter@dot.gov'; Geary, Georgene
Cc: Latoya.Johnson@dot.gov
Subject: RE: VE proposal for M002967 and M002970

David,

There is B-Mod in all lanes. The B Mod was placed in the lane addition and PCC Overlay projects.

A.J. Jubran, P.E.
State Pavement Engineer
Georgia Department of Transportation
404-363-7582
404-363-7684 fax
ajubran@dot.ga.gov

From: David.Painter@dot.gov [mailto:David.Painter@dot.gov]
Sent: Tuesday, June 23, 2009 3:36 PM
To: Jubran, Abdallah (AJ); Geary, Georgene
Cc: Latoya.Johnson@dot.gov
Subject: VE proposal for M002967 and M002970

I sent this out last Wednesday and have not seen any response as yet. It may have gotten lost in the welter of other VE emails. Please take a look.

All, I have seen VE proposal #3 for M002967 and M002970 that proposes to limit milling in lanes 1 and 5 on I-285 if these lanes do not contain B modified mix. Can you tell me if you have any core data for these lanes? From the VE packet B mod exists on lanes 2-4, where all HMA will be removed down to the concrete.

I am also interested in OMR's stance on VE proposal #4, which proposes using 6' of 12.5 mm SMA on the inside shoulder to eliminate the separate paving operation that would instead install 12.5 mm Superpave on the inside shoulder. I think this proposal could make sense, because the contractor could put down the 6' shoulder pavement at the same time as he puts down the inside lane. We would pay a bit more for materials, but would save time.

I am interested in your thoughts on this,

David Painter
MSE, PE
FHWA, GA Division
Suite 17T100 AFC
61 Forsyth St
Atlanta, GA 30303
Tel: 404 562-3658
Fax: 404 562-3703

PRECONSTRUCTION STATUS REPORT FOR PI:M002967,M002970,M003956,M003976

PROJ ID : M002970
COUNTY : Cobb, Dekalb, Fulton
LENGTH (MI) : 9.78
PROJ NO.: CSNHS-M002-00(970)
PROJ MGR: Clowers, Marlo
OFFICE : Innovative Prog. Delivery
CONSULTANT: No Consultant, GDOT In-House Design
SPONSOR : GDOT
DESIGN FIRM: GDOT D7 Design Office

I-285 FROM WEST PACES FERRY ROAD TO ASHFORD DUNWOODY ROAD

MPO: Atlanta TMA
TIP #: AR-111H
MODEL YR : 2020
TYPE WORK: Resurface & Maintenance
CONCEPT: MIL/LEV/RES/GR
PROG TYPE: Maintenance
Prov. for ITS: N
BOND PROJ :

DOT DIST: 7
CONG. DIST: 6, 5
BIKE: N
MEASURE: E
NEEDS SCORE:
BRIDGE SUFF:

MGMT LET DATE : 12/11/2009
MGMT ROW DATE :
SCHED LET DATE : 12/4/2009
WHO LETS?: GDOT Let
LET WITH :

SCHED START	SCHED FINISH	ACTIVITY	ACTUAL START	ACTUAL FINISH	%
	8/3/2009	Value Engineering Study	2/12/2009		33
		Environmental Approval	**3/2/2009**	**4/9/2009**	100
6/19/2009	6/22/2009	PFPR Inspection			0
8/20/2009	8/21/2009	FFPR Inspection			0
9/4/2009	9/17/2009	Submit FFPR Responses (OES)			0

PROGRAMMED FUNDS

Phase	Approved	Proposed	Cost	Fund	Status	Date Auth
CST	LR	2014	58,950,472.20	L010	PRECST	

CST Cost Est Amt: 38,000,000.00 Date: 7/6/2004

STIP AMOUNTS

Phase	Cost	Fund
CST	0.00	L010

Bridge: NO BRIDGE REQUIRED
Design: Updating per VE study comments (MLC 6/09)
EIS: PCE| Apvd 4-6-09 | Cert Let 4-6-09 | Peters06.03.09
LGPA: NOT APPLICABLE
Prog. Develop: PE deleted per David Studstill 3-27-06
Utility: LB: Need Plans 6-2009
EMG: MAINTENANCE (RESURFACING)

District Comments

This project will be advanced ahead of revive285 top end. The project will be managed by IPD and D7 will complete the design. PE will come from M002967. [MLC 6/09]

Project scope log includes: shoulder reconstruction, guardrail, ramp meters, traffic signal loops, weigh in motion sensors, drainage improvements, ramp pavement

Prel. Parcel CT:
Under Review:
Released:
Total Parcel in ROW System:
Options - Pending:
Condemnations- Pend:
Cond. Filed:
Relocations:
Acquired:
Acquired by: N/R
Acquisition MGR:
R/W Cert Date:
DEEDS CT:

PRECONSTRUCTION STATUS REPORT FOR PI:M002967,M002970,M003956,M003976

PROJ ID : M002967
COUNTY : Dekalb
LENGTH (MI) : 5.96
PROJ NO.: CSNHS-M002-00(967)
PROJ MGR: Clowers, Marlo
OFFICE : Innovative Prog. Delivery
CONSULTANT: No Consultant, GDOT In-House Design
SPONSOR : GDOT
DESIGN FIRM: GDOT D7 Design Office

I-285 FROM CR 1764/ASHFORD DUNWOODY ROAD TO CHAMBLEE TUCKER

MPO: Atlanta TMA
TIP #: AR-126H
MODEL YR : 2020
TYPE WORK: Resurface & Maintenance
CONCEPT: MIL/LEV/RES/GR
PROG TYPE: Maintenance
Prov. for ITS: N
BOND PROJ :

DOT DIST: 7
CONG. DIST: 4
BIKE: N
MEASURE: E
NEEDS SCORE:
BRIDGE SUFF:

MGMT LET DATE : 12/11/2009
MGMT ROW DATE :
SCHED LET DATE : 12/4/2009
WHO LETS?: GDOT Let
LET WITH :

SCHED START	SCHED FINISH	ACTIVITY	ACTUAL START	ACTUAL FINISH	%
	6/30/2009	Value Engineering Study	2/12/2009		82
		Environmental Approval	**3/2/2009**	**4/6/2009**	100
6/19/2009	6/22/2009	PFPR Inspection			0
8/20/2009	8/21/2009	FFPR Inspection			0
9/4/2009	9/17/2009	Submit FFPR Responses (OES)			0

PROGRAMMED FUNDS

Phase	Approved	Proposed	Cost	Fund	Status	Date Auth
PE	2006	2006	50,000.00	Q01	AUTHORIZED	9/26/2005
CST	LR	2016	73,544,592.39	L010	PRECST	

PE Cost Est Amt: Date:
CST Cost Est Amt: 43,000,000.00 Date: 7/6/2004

STIP AMOUNTS

Phase	Cost	Fund
PE		Q01
CST	0.00	L010

Bridge: NO BRIDGE REQUIRED
Design: Updating plans per VE study comments(MLC 6/09)
EIS: PCE | Apvd4.06.09 | CertLet 4.06.09 | Peters06.03.09
LGPA: NOT APPLICABLE
Programming: LUMP SUM 0006149 - INTERSTATE MAINTENANCE - 2006|#1 12-06
Utility: LB:Need Plans 06-2009. NO UTILITY CONFLICT
EMG: MAINTENANCE (RESURFACING)

District Comments

This project will be advanced ahead of revive285 top end. The project will be managed by IPD and D7 will complete the design [MLC 6/09].

Project scope log includes: shoulder reconstruction, guardrail, ramp meters, traffic signal loops, weigh in motion sensors, drainage improvements, ramp pavement

Prel. Parcel CT:
Under Review:
Released:
Total Parcel in ROW System:
Options - Pending:
Condemnations- Pend:
Cond. Filed:
Relocations:
Acquired:
Acquired by: N/R
Acquisition MGR:
R/W Cert Date:
DEEDS CT: